



S/N 09/656,173

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	WEST ET AL.	Examiner:	WOTAICH
Serial No.:	09/656,173	Group Art Unit:	1632
Filed:	SEPTEMBER 6, 2000	Docket No.:	60141.22USI1
Title:	METHODS OF REPAIRING TANDEMONLY REPEATED DNA SEQUENCES AND EXTENDING CELL LIFE-SPAN USING NUCLEAR TRANSFER		

CERTIFICATE UNDER 37 CFR 1.8:

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail, with sufficient postage, in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on May 24, 2004.

By:
Name:

INFORMATION DISCLOSURE STATEMENT (37 C.F.R. § 1.97(c))

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

With regard to the above-identified application, the items of information listed on the enclosed Form 1449 are brought to the attention of the Examiner.

This statement should be considered because it is submitted after the mailing date of a first Office Action on-the-merits or a first Office Action after filing a Request for Continued Examination under 37 C.F.R. § 1.114 or a CPA under 37 C.F.R. § 1.53(d), but before the mailing date of: i) a final action under 37 C.F.R. § 1.113; ii) a Notice of Allowance under 37 C.F.R. § 1.311; or iii) an action that otherwise closes prosecution on the application. Enclosed is a check in the amount of \$180.00 under 37 C.F.R. § 1.17(p) for consideration of the items listed on the enclosed Form 1449.

In accordance with 37 C.F.R. § 1.98(a)(2), a copy of each document or other information listed on the enclosed Form 1449 is provided.

No representation is made that a reference is "prior art" within the meaning of 35 U.S.C. §§ 102 and 103 and Applicants reserve the right, pursuant to 37 C.F.R. § 1.131 or otherwise, to establish that the reference(s) are not "prior art." Moreover, Applicants do not represent that a

reference has been thoroughly reviewed or that any relevance of any portion of a reference is intended.

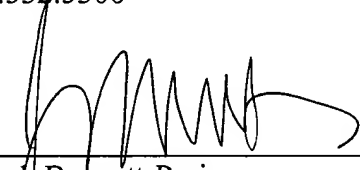
Consideration of the items listed is respectfully requested. Pursuant to the provisions of M.P.E.P. 609, it is requested that the Examiner return a copy of the attached Form 1449, marked as being considered and initialed by the Examiner, to the undersigned with the next official communication.

Please charge any additional fees or credit any overpayment to Deposit Account No. 13-2725.

Respectfully submitted,

MERCHANT & GOULD P.C.
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Minneapolis, Minnesota 55402-0903
612.332.5300

Date 5/24/04



Joseph Bennett-Paris
Reg. No. 47,226
JBP:PLStdm





INFORMATION DISCLOSURE STATEMENT

IN AN APPLICATION

(Use several sheets if necessary)

Docket Number:

60141.22USII

Application Number:

09/656,173

Applicant: WEST ET AL.

Filing Date: 09/06/2000

Group Art Unit: 1632

U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE

FOREIGN PATENT DOCUMENTS

	DOCUMENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
						YES	NO

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

	1.	Allshire, R. et al., "Human telomeres contain at least three types of G-rich repeat distributed non-randomly, <i>Nucleic Acids Research</i> , 17: 4611-4627 (1989).
	2.	Allsopp, R. et al., "Evidence for a Critical Telomere Length in Senescent Human Fibroblasts," <i>Experimental Cell Research</i> , 219: 130-136 (1995).
	3.	Allsopp, R. et al., "Telomere length predicts replicative capacity of human fibroblasts," <i>Proc. Natl. Acad. Sci. USA</i> , 89: 10114-10118 (1992).
	4.	Baguisi, A. et al., "Production of goats by somatic cell nuclear transfer," <i>Nature Biotechnology</i> , 17: 456-461 (1999).
	5.	Bassham, S. et al., "Telomere Variation in <i>Xenopus laevis</i> ," <i>Molecular and Cellular Biology</i> , 18: 269-275 (1998).
	6.	Betts, D. et al., "Telomerase Activity and Telomere Detection During Early Bovine Development," <i>Developmental Genetics</i> , 25: 397-403 (1999).
	7.	Bodnar, A. et al., "Extension of Life-Span by Introduction of Telomerase into Normal Human Cells," <i>Science</i> , 279: 349-352 (1998).
	8.	Bondioli, K., "Nuclear Transfer in Cattle," <i>Molecular Reproduction And Development</i> , 36: 274-275 (1993).
	9.	Campbell, K. et al., "Sheep cloned by nuclear transfer from a cultured cell line," <i>Nature</i> , 380: 64-66 (1996).
	10.	Chomczynski, P. et al., "Single-Step Method of RNA Isolation by Acid Guanidinium Thiocyanate-Phenol-Chloroform Extraction," <i>Analytical Biochemistry</i> , 162: 156-159 (1987).
	11.	Cibelli, J. et al., "Cloned Transgenic Calves Produced from Nonquiescent Fetal Fibroblasts," <i>Science</i> , 280: 1256-1258 (1998).
	12.	Cristofalo, V. et al., "Cellular Senescence and DNA Synthesis," <i>Experimental Cell Research</i> , 76: 419-427 (1973).
	13.	Cristofalo, V. et al., "Molecular Changes with <i>in vitro</i> Cellular Senescence," <i>Annals of the New York Academy of Sciences</i> , 663: 187-194 (1992).

EXAMINER	DATE CONSIDERED
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EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form for next communication to the Applicant.

FORM 1449*

INFORMATION DISCLOSURE STATEMENT

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IN AN APPLICATION

(Use several sheets if necessary)

Applicant: WEST ET AL.

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Group Art Unit: 1632

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

14.	Cristofalo, V. et al., "Molecular Markers Of Senescence In Fibroblast-Like Cultures," <i>Experimental Gerontology</i> , 31: 111-123 (1996).
15.	Cristofalo, V. et al., "Replicative Senescence of Human Fibroblast-Like Cells in Culture," <i>Physiological Reviews</i> , 73: 617-638 (1993).
16.	de Lange, T. et al., "Unlimited Mileage from Telomerase?," <i>Science</i> , 283: 947-949 (1999).
17.	Dimri, G. et al., "A biomarker that identifies senescent human cells in culture and in aging skin <i>in vitro</i> ," <i>Proc. Natl. Acad. Sci USA</i> , 92: 9363-9367 (1995).
18.	Gorman & Cristofalo, "Analysis of the G1 Arrest Position of Senescent WI38 Cells by Quinacrine Dihydrochloride Nuclear Fluorescence Evidence for a Late G1 Arrest," <i>Experimental Cell Research</i> , 167: 87-94 (1986).
19.	Harley, C. et al., "Telomeres shorten during ageing of human fibroblasts," <i>Nature</i> , 345: 458-460 (1990).
20.	Hayflick, L., "The Limited <i>in vitro</i> Lifetime of Human Diploid Cell Strains," <i>Experimental Cell Research</i> , 37: 614-636 (1965).
21.	Hayflick, L. et al., "The Serial Cultivation of Human Diploid Cell Strains," <i>Experimental Cell Research</i> , 24: 585-621 (1961).
22.	Hill, J. et al., "Clinical And Pathologic Features Of Cloned Transgenic Calves And Fetuses (13 Case Studies)," <i>Theriogenology</i> , 51: 1451-1465 (1999).
23.	Kato, Y. et al., "Eight Calves Cloned from Somatic Cells of a Single Adult," <i>Science</i> , 282: 2095-2098 (1998).
24.	Kiyono, T. et al., "Both Rb/p16 ^{INK4a} inactivation and telomerase activity are required to immortalize human epithelial cells," <i>Nature</i> , 396: 84-88 (1998).
25.	Lanza, R. et al., "Human therapeutic cloning," <i>Nature Medicine</i> , 5: 975-977 (1999).
26.	Lanza, R. et al., "Prospects for the use of nuclear transfer in human transplantation," <i>Nature Biotechnology</i> , 17: 1171-1174 (1999).
27.	Levy, M. et al., "Telomere End-replication Problem and Cell Aging," <i>J. Mol. Biol.</i> , 225: 951-960 (1992).
28.	Lipetz, J. et al., "Ultrastructural Changes Accompanying the Aging of Human Diploid Cells in Culture," <i>J. Ultrastructure Research</i> , 39: 43-56 (1972).
29.	Meng, L. et al., "Rhesus Monkeys Produced by Nuclear Transfer," <i>Biology of Reproduction</i> , 57: 454-459 (1997).
30.	Phinney, D. et al., "Quantitative analysis of the contribution made by 5'-flanking and 3'-flanking sequences to the transcriptional regulation of <i>junB</i> by growth factors," <i>Oncogene</i> , 9: 2353-2362 (1994).
31.	Pignolo, R. et al., "Senescent WI-38 Cells Fail to Express <i>EPC-1</i> , a Gene Induced In Young Cells upon Entry into the G ₀ State," <i>The Journal of Biological Chemistry</i> , 268: 8949-8957 (1993).
32.	Pignolo, R. et al., "The Pathway Of Cell Senescence: WI-38 Cells Arrest In Late G ₁ And Are Unable To Traverse The Cell Cycle From A True G ₀ State," <i>Experimental Gerontology</i> , 33:67-80 (1998)

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FORM 1449* INFORMATION DISCLOSURE STATEMENT IN AN APPLICATION (Use several sheets if necessary)	Docket Number: 60141.22US11	Application Number: 09/656,173
	Applicant: WEST ET AL.	
	Filing Date: 09/06/2000	Group Art Unit: 1632

33.	Renard, J. et al., "Lymphoid hypoplasia and somatic cloning," <i>Lancet</i> , 353: 1489-1491 (1999).
34.	Rufer, N. et al., "Telomere Fluorescence Measurements in Granulocytes and T Lymphocyte Subsets Point to a High Turnover of Hematopoietic Stem Cells and Memory T Cells in Early Childhood," <i>J. Exp. Med.</i> , 190: 157-167 (1999).
35.	Rufer, N. et al., "Telomere length dynamics in human lymphocyte subpopulations measured by flow cytometry," <i>Nature Biotechnology</i> , 16: 743-747 (1998).
36.	Shiels, P. et al., "Analysis of telomere lengths in cloned sheep," <i>Nature</i> , 399: 316-317 (1999).
37.	Smith, J. et al., "Intracloonal Variation in Proliferative Potential of Human Diploid Fibroblasts: Stochastic Mechanism for Cellular Aging," <i>Science</i> , 207: 82-84 (1980).
38.	Vaziri, H. et al., "ATM-dependent telomere loss in aging human diploid fibroblasts and DNA damage lead to the post-translational activation of p53 protein involving poly (ADP-ribose) polymerase," <i>EMBO Journal</i> , 16: 6018-6033 (1997).
39.	Vaziri, H. et al., "Reconstitution of telomerase activity in normal human cells leads to elongation of telomeres and extended replicative life span," <i>Current Biology</i> , 8: 279-282 (1998).
40.	Wakayama, T. et al., "Full-term development of mice from enucleated oocytes injected with cumulus cell nuclei," <i>Nature</i> , 394: 369-374 (1998).
41.	West, M., "The Cellular and Molecular Biology of Skin Aging," <i>Arch Dermatol.</i> , 130: 87-95 (1994).
42.	West, M. et al., "Altered Expression of Plasminogen Activator And Plasminogen Activator Inhibitor During Cellular Senescence," <i>Experimental Gerontology</i> , 31: 175-193 (1996).
43.	West, M. et al., "Replicative Senescence of Human Skin Fibroblasts Correlates with a Loss of Regulation and Overexpression of Collagenase Activity," <i>Experimental Cell Research</i> , 184: 138-147 (1989).
44.	Wilmut, I. et al., "Viable offspring derived from fetal and adult mammalian cells," <i>Nature</i> , 385: 810-813 (1997).

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PATENT TRADEMARK OFFICE

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